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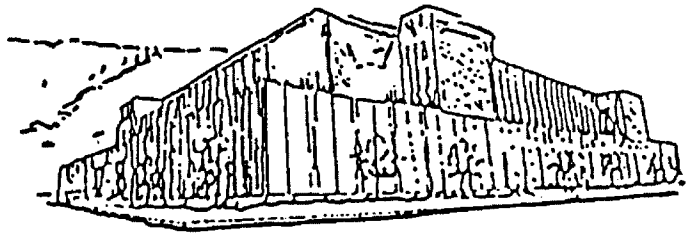
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CHILD HUNGER IN MONTANA:
A STUDY OF PUBLIC SCHOOL THIRD-GRADERS

by

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B.A. Davidson College, North Carolina, 1991

presented in partial fulfillment of the requirements

for the degree of

Master of Sociology

The University of Montana

1995

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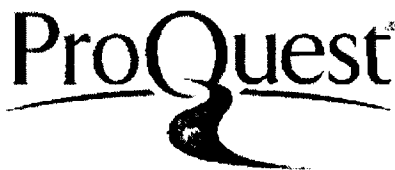


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Phillips, Frances R., M.A., August 1995 Sociology

Child Hunger in Montana: A Study of Public School
Third-Graders

Committee Chair: Dr. Paul Miller *pm*

As with the rest of the nation, the State of Montana has witnessed an increase in the incidence of hunger among its citizens, particularly its children. An examination of the nature and prevalence of hunger among public school third-graders in the State of Montana was performed using quantitative data gathered from a student questionnaire, school district records, and reports on public programs. The results indicate that hunger among third-grade students attending public schools is a serious problem that transcends traditional socio-economic boundaries.

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CHAPTER ONE

INTRODUCTION: CHILD HUNGER

Over the past decade, the United States has witnessed a troubling surge in the incidence and severity of hunger among its citizens. Virtually eliminated during the 1970s, hunger reemerged the following decade as a serious and widespread domestic problem (Brown 1987). Moreover, the mounting pressure and demand for emergency food assistance experienced by food banks, churches, and other feeding centers coupled with extensive documentation from numerous national, state, and local studies suggests that the return of hunger to America is a problem that has only grown in magnitude and seriousness (Nestle and Guttmacher 1992). At present, the reality of hunger in the United States is that an ever-increasing number of Americans have limited or no access to food resources and are ultimately unable to meet their daily food needs on a regular basis. In fact, recent statistics estimate that between 20.4 million and 42.8 million individuals currently experience hunger in the United States (Brown 1992).

The paradox of such "want in the midst of plenty" is not new to the United States. Throughout much of this century (most notably in the 1930s and 1960s), hunger and malnutrition have been a fact of life for millions of Americans. What is new, however, is the alarming level and growth of child hunger evident nationwide.

Since its return to America as a social ill in the early 1980s, hunger has continued to hit "its most helpless victims, children, particularly hard" (Maital and Morgan 1992:54). Moreover, over the course of the last decade, the number of children going hungry in the United States has increased by nearly twenty-six percent (Maital and Morgan 1992:54). As a result, children now constitute an overwhelming percentage (forty percent) of our nation's hunger population (CNI 1993). In fact, according to recent statistics, an estimated twelve million of the country's youngest, most vulnerable citizens go hungry on a regular basis (CNI 1993). The implication of these numbers is that, in one of the world's most resource-wealthy nations, one out of every five children is growing up hungry (Bread for the World Institute 1995). That such a grim and crippling condition as hunger should exist for so many children in a

country as rich in food resources as the United States inevitably raises the fundamental question as to the reasons for such a needless paradox.

As with the rest of the nation, the existence of hunger in the State of Montana has become increasingly more evident over the course of the last decade. Beginning in the early 1980s, federal food distribution programs and feeding centers such as food banks and churches witnessed a considerable rise in the number of Montanans seeking emergency food assistance (Miller 1993). A particularly troubling aspect of these growing requests for assistance is that a majority (forty percent) of the emergency food recipients are children (Miller 1993). In fact, according to a recent nationwide analysis, an estimated twenty percent of children living in the State of Montana experience hunger on a regular basis (CNI 1993). Although the actual extent of its magnitude has yet to be fully documented, these figures certainly imply that the State of Montana has a problem with child hunger.

Unless measures are specifically targeted to counter their effects, current economic, social, and political conditions existing in the State of Montana will likely

result in a significant increase in both the incidence and severity of child hunger statewide. At present, the overall poverty rate in the State of Montana (16.1 percent) is relatively high both regionally and nationally (Miller 1993). Equally troubling are the rates of poverty among Montana's children (17.6 percent) and female-headed households (49.3 percent) (US Census Bureau 1990). These poverty rates, coupled with the fact that the number of female single-parent households is on the rise in a state economy that is increasingly characterized by low-paying jobs, presents a situation where even a greater number of individuals, particularly children, could easily slip into poverty and, subsequently, experience hunger. Moreover, with the recent proposals for government reductions in the level of public assistance benefits (including Aid to Families with Dependent Children) provided to those in need by the State of Montana, the overall ability of impoverished families to provide for themselves and their children will, more than likely, only be further crippled. The already precarious position of children at risk for hunger in the State of Montana is only underscored when viewed in light of these economic, social, and political trends.

Given the implications for children experiencing hunger, the present level of child hunger and the potential for its increase in the State of Montana is cause for serious concern. A significant number of Montana's children may likely grow up hungry and subsequently suffer the physical, emotional, and educational difficulties typically associated with the experience of hunger (Food Research and Action Center 1991). The long-term consequences of hunger may result in the inability of these children to function and participate as productive adult members of society (Smith 1993). It is therefore essential that steps be taken to confront the existing problem and prevent its spread.

Before effective policy for the alleviation and, ultimately, the elimination of child hunger can be developed and subsequently implemented, a better understanding and greater awareness of both the incidence and extent of hunger being experienced by Montana's children as well as the factors contributing to its existence are necessary. Within this context, it is hoped that this thesis will lend insight into both the scope and nature of child hunger in the State of Montana.

CHAPTER TWO LITERATURE REVIEW

The dramatic reappearance of hunger in the early 1980s sparked public interest and considerable debate over America's "hunger problem." As a result of the attention and controversy surrounding the issue, much research was conducted on national, state, and local levels in an attempt to document and explain the existence of severe and widespread hunger in the United States. Although many studies have addressed the issue of hunger, a review of the current body of hunger literature reveals that the existence of research specifically examining and exploring child hunger in and of itself is somewhat limited and that those child hunger studies that are available tend to define and measure hunger in a number of different ways.

DEFINITIONS OF HUNGER

At present, there is no universally accepted definition of hunger. In the past, researchers have typically equated hunger with its physical manifestations and, ultimately, with malnutrition. Other frequently used definitions have attempted to incorporate hunger into the broader context

of poverty and describe it in terms of insufficient access to food resources, food shortages, and inadequate dietary intake. For example, the Montana Hunger Coalition uses as its definition of hunger: "lack of access to adequate food and nutrition" (Miller 1993:8).

More recently, however, the emphasis of hunger research has shifted from the individual to the larger community or societal level and has specifically focused on the concept of food security. "Food security" refers to the ability or willingness of a community or society to provide its members with food or meet their nutritional needs (Cohen and Burt 1989). The concept of food security and its emphasis on the role of larger society for feeding its members holds interesting implications for future anti-hunger policy and legislation, particularly with regard to children. If in the responsibility for ensuring adequate food intake falls to the larger community, more effort and emphasis will ultimately be placed on programs such as the National School Breakfast and Lunch Programs.

Taken as a whole, the definitions presented here represent only a few of the many ways of viewing and defining hunger. Their diversity, however, clearly

illustrates the primary stumbling block facing hunger researchers today.

MEASUREMENTS OF HUNGER

Because the manner in which hunger is defined necessarily determines its operationalization, existing measurements of hunger are as diverse and varied as its definitions. While their methods of operationalization lack universality, hunger researchers have typically relied on indirect measures to determine hunger. Examples of accepted and widely-used indicators of hunger utilized in existing research range from its physical manifestations (such as increased health difficulties and behavioral problems) to its social and economic contributors (such as poverty, unemployment, and the level of single-parent households).

Until a universal definition and measurement of hunger is agreed upon, hunger researchers will continue to face the difficulty and challenge of fulfilling both "the exacting criteria of science while simultaneously meeting the needs of policy-makers and citizens' groups addressing the hunger problem" (Miller 1993:8). The following studies represent

several different attempts by researchers to document and explain child hunger in America in a manner that is both scientifically valid as well as useful and meaningful.

EXISTING CHILD HUNGER STUDIES

The Community Childhood Hunger Identification Project (CCHIP) sponsored by the Food Research and Action Center offers one of the best known, more statistically reliable national investigations of child hunger in the United States. Replicating a study developed by the Connecticut Association for Human Services in cooperation with child health and research experts, the CCHIP study surveyed a random sample of 2335 low-income households selected from seven area sites nationwide regarding their families' experiences with hunger. Based on these self-reported hunger data, the CCHIP report estimated that nationwide there are 5.5 million children under the age of twelve experiencing hunger on a regular basis and that an additional 6.5 million are at risk for hunger (Food Research and Action Center 1991). Moreover, the study's findings not only indicated that hungry children are more likely than non-hungry children to experience health, developmental, and

behavioral problems, but that there also tends to be a strong relationship between child hunger and the total household income, shelter costs, and employment status of a child's family. In light of its overall findings, the CCHIP report ultimately maintained that federal food assistance programs, such as the Food Stamp Program and the National School Lunch and Breakfast Programs, play a positive role in allaying child hunger and must therefore be expanded to confront America's growing child hunger problem.

In a complementary analysis, the Tufts University Center on Hunger, Poverty, and Nutrition Policy provided an expanded assessment of America's child hunger problem. Using the estimate of the number of hungry children reported in the National CCHIP Study as its initial base, the Tufts' study then applied known indirect indicators of hunger such as national poverty statistics as a means of projecting the number of children under the age of eighteen that experience hunger in the United States. According to the report's final analysis, an estimated twelve million, or eighteen percent, of the country's sixty-six million children go hungry on a regular basis (Center on Hunger, Poverty, and Nutrition Policy at Tufts University 1991). More importantly, the

Tufts' study concluded that those numbers will likely increase as America's stagnating economy and high unemployment rates drive more and more families into poverty and, ultimately, hunger.

A study sponsored by the Carnegie Foundation for the Advancement of Teaching offers a different perspective on child hunger in the United States in its examination of the problem. In the National Survey of Public School Teachers, the Foundation study questioned a total of 22,000 public school teachers regarding their personal assessment of the overall health and well-being of their students. Utilizing the data collected from both the survey questions as well as the comments offered by the teachers, the report provides a state-by-state, as well as national, analysis of the teachers' perceptions of the proportion of their students living in poverty, experiencing malnourishment, and suffering from poor health. According to the study's findings, an estimated sixty-eight percent of the teachers surveyed reported that malnourishment is a problem among many of their students and sixty-nine percent indicated that poor health is also cause for serious concern (Carnegie Foundation for the Advancement of Teaching 1987).

Taken as a whole, the report's final analysis ultimately revealed that poverty, poor health, hunger, and neglect are all perceived to be major problems among students attending public schools nationwide.

The Massachusetts Department of Health provides yet another perspective on child hunger in America in the annual Massachusetts Nutrition Survey. The Massachusetts study's methods of investigation specifically revolved around the analysis of information gathered from a sample of 1,429 children under the age of six receiving medical attention at a state health care facility. Based on the data collected as well as on accepted indicators of poor nutrition, the report estimated that between 10,000 and 17,000 pre-school children in the State of Massachusetts are suffering from chronic malnourishment (Massachusetts Department of Public Health 1983). The study's findings further suggested that undernourished children are prone to experience problems with their physical development and that children from families living below the poverty line appear to be at particular risk for experiencing hunger. Taken as a whole, the findings from the Massachusetts study ultimately led to the conclusion that chronic malnutrition is a

significant problem among pre-school children living below the poverty line in the State of Massachusetts.

In "Empty Promises: Childhood Hunger in Hennepin County and the Challenge to Public Policy," the Urban Coalition of Minneapolis completed a county-level examination of child hunger in Hennepin County, Minnesota. As part of the National Community Childhood Hunger Identification Project Study, the Urban Coalition of Minneapolis conducted 257 in-home interviews with a random sample of low-income households regarding their experiences with hunger. Based on the self-reported hunger data collected in these interviews, the Coalition's report estimated that between 11,800 and 13,800 school-age children in Hennepin County live in families experiencing hunger (Urban Coalition of Minneapolis 1990). Their examination further suggests that the lack of food has had a serious detrimental effect on the overall health and well-being of these children. The study's findings also point to the conclusion that there is a fairly strong link between child hunger and the total household income and composition of a child's family. In light of its overall discovery of widespread child hunger in Hennepin County, the Coalition report ultimately recommended that

federal food assistance programs and school feeding programs must necessarily be expanded to meet this ever-growing need for food.

Documentation of child hunger at the local level is offered in a study conducted by the Center on Hunger, Poverty, and Nutrition Policy at Tufts University. In "Childhood Hunger and Pawtucket City schools, a key informant methodology was utilized in assessing the problem of hunger among school-age children in Pawtucket, Rhode Island. Based on the information collected in interviews from a random sample of health care providers, school personnel, emergency food providers, and parents, the study found that there are chronic food shortages among Pawtucket's low-income families and that, as a result, hunger among Pawtucket school-age children is fairly prevalent (Center on Hunger, Poverty, and Nutrition Policy at Tufts University 1992). Moreover, the report further suggested that undernutrition holds serious negative consequences for both a child's health and ability to learn. Within the context of these findings, the study proposes that the provision of a school breakfast and lunch could be fundamental in alleviating Pawtucket's child hunger

problem as well as improving the overall health and future well-being of its students.

In their "Community Childhood Hunger Identification Project: A Model of Domestic Hunger-Demonstration Project in Seattle, Washington," Cheryl A. Wehler, Richard Ira Scott, and Jennifer J. Anderson provide an analysis of a city-wide examination of child hunger in the Seattle area. As part of a CCHIP demonstration project, the Seattle study's methods of investigation specifically revolved around interviews that were conducted with a random sample of 377 low-income households. Based on the information gathered in these interviews, the study's final analysis estimated that 42.7 percent of the household heads reported that their families were experiencing hunger (Wehler et al. 1992). In addition, the report's findings also indicated that hungry children have a greater likelihood of suffering from increased health problems than non-hungry children and that child hunger is closely related to certain economic and socio-demographic characteristics of a child's family.

DISCUSSION

Although existing research specifically examining child hunger in and of itself is somewhat limited and tends to define and measure hunger in different ways, those studies that are available consistently produce the same undeniable conclusion-- "that there are a significant number of children suffering from hunger in the United States" (Tingling-Clemmons 1990:50).

While some children may go hungry as the result of parental indifference or ignorance, research to date suggests that the existence of child hunger in the United States is more closely tied to poverty and is therefore inextricably bound to a number of larger social, economic, and policy-related issues and problems. Also clearly evident in existing studies is not only the fact that hungry children are particularly prone to experience physical, emotional, and learning difficulties as a result of their hunger, but that federal food assistance programs and school feeding programs can play an instrumental role in alleviating both the existence and effects of child hunger.

CHAPTER THREE THE PRESENT STUDY

RESEARCH QUESTIONS AND OBJECTIVES

In order to lend greater insight and awareness into the existence of child hunger in the United States, this investigation was directed towards a statewide examination of hunger among young public school children in the State of Montana. More specifically, this study considers the larger questions of the degree to which hunger exists among young public school children in the State of Montana as well as which factors contribute to the existence of hunger among those children. The analysis specifically revolved around the following research objectives:

- (1) to estimate the degree to which hunger exists among young public school children in the State of Montana as per the responses of third-grade students attending a statewide random sample of public schools;
- (2) to examine the relationship between the degree of hunger experienced by young public school children in the State of Montana (as per the responses of third-grade attending a statewide random sample of public schools) and selected characteristics of those surveyed including: morning food intake, availability of time and adult assistance in the morning, and morning energy level;

- (3) to examine the relationship between the degree of hunger experienced by young public school children in the State of Montana (as per the responses of third-grade students attending a statewide random sample of public schools) and selected characteristics of the sampled schools including: availability of school breakfast and lunch program; and
- (4) to examine the relationship between the degree of hunger experienced by young public school children in the State of Montana (as per the responses of third-grade students attending a statewide random sample of public schools) and selected socio-economic characteristics of the school districts of the sampled schools including: employment rate; household composition, poverty rate, public assistance participation rate, racial composition, and urban/rural composition.

DATA COLLECTION

The exploration of the proposed research questions and objectives revolved around the analysis of data derived from three separate sources: a statewide study on child hunger sponsored by the Montana Hunger Coalition, 1990 School District Census Data, and records provided by Montana's Office of Public Instruction detailing school participation in the National School Breakfast and Lunch Programs. The specifics of these various data sources and the process involved in their collection are outlined in detail below.

MONTANA HUNGER COALITION STUDY

Data collected in conjunction with a statewide study on child hunger sponsored by the Montana Hunger Coalition provided much of the information for the present examination of hunger among young public school children. As part of its continuing effort to alleviate and, ultimately, eliminate hunger in Montana, the Montana Hunger Coalition in collaboration with the Office of Public Instruction, Montana Dietetic Association, and several principals and teachers developed a study and, over the course of two years, constructed, pre-tested, and approved a set of questionnaires designed to measure the extent and nature of child hunger in Montana.

Two separate random samples (one from all urban counties in Montana, one from all rural counties) of public elementary schools in the State of Montana were drawn at a 90% confidence level (resulting in a combined total sample of 137 public schools). For the purposes of this analysis, rural counties were defined as any county having no incorporated place with a population of 2500 persons or more. After the samples were drawn, the selected schools were contacted in order to obtain the necessary permission

to conduct the study. Once permission was secured, third-grade students attending these sampled schools were administered the pre-approved questionnaire regarding their personal experiences with hunger while at school, morning intake of food, the availability of time and adult assistance in the morning, and morning energy level (See Appendix Figure 1A for a copy of the student questionnaire).

At this point, it should be noted that given the subject matter of the study, third-grade students (as opposed to any other grade-level) were considered to be the most logical age-group among young public school children in the State of Montana to complete the questionnaires. According to existing hunger research, third-grade students are old enough to understand the nature of the posed questions and formulate a meaningful opinion regarding their experiences with hunger. More importantly, they are at an age where the larger social implications and possible stigma of being hungry have yet to be fully realized and are therefore likely to answer the questions more honestly than would older students.

EXAMINATION OF CENSUS RECORDS

Because the Montana Hunger Coalition elected to survey young children in its study, several concessions had to be made with respect to the questions these children were asked. In order to ensure, without a doubt, that the identity of the children participating in the study remained completely anonymous, no household demographic questions were allowed on the questionnaire. However, using 1990 Census School District data compiled by the National Center for Education Statistics, certain socio-economic characteristics of the school districts in which the student respondents live were obtained (National Center for Education Statistics 1990). It was assumed that while these characteristics could not be specifically attributed to the individual children participating in the study, they could offer a general idea of the larger socio-economic environment in which these children reside. The factors identified and subsequently recorded for the present analysis included: rural/urban composition; racial composition; family household composition; employment rate; poverty rate; and participation rate in public assistance.

SCHOOL FEEDING PROGRAMS

In addition to the information gathered from the Montana Hunger Coalition Study and 1990 Census Records, data were also taken from reports detailing school and student participation in the National School Lunch and Breakfast Programs. Because it was deemed inappropriate to ask the student respondents whether they participate in either of these programs, the availability of these programs at the school these students attend was determined instead. Thus, for each student respondent in the Montana Hunger Coalition Study, the participation status of his/her school in both the National School Lunch and Breakfast Programs was identified and subsequently recorded.

DATA ANALYSIS

Before initiating an analysis of the data, a master file was created using the information collected from the data sources. For each student respondent participating in the Montana Hunger Coalition Study, a case file was developed using the previously identified data from the Montana Hunger Coalition Study, 1990 School District Census Records, and the reports on school participation in the

National School Breakfast and Lunch Programs. Each of these individual data items was separately coded and subsequently entered for analysis. A description of the specific variables that were included in the present analysis as well as the reasons for their selection are discussed in detail below.

VARIABLE SELECTION

The selection of variables for the present examination was ultimately guided by a number of assumptions drawn from past child hunger research. First, the existence of hunger is inextricably linked to several larger socio-economic factors such as poverty, employment, and the rise in single parent households (Miller 1993). Second, the occurrence of child hunger, to some extent, is the result of parental neglect and absence (Brown 1987). Finally, school feeding programs, specifically the National School Lunch and Breakfast Programs, play a major role in alleviating the existence of child hunger (Food Research and Action Center 1992). Based on these assertions regarding the existence of child hunger, several characteristics were selected for inclusion in data gathering and analysis.

IDENTIFICATION AND EXPLANATION OF VARIABLES

The variables specifically included in the present examination of hunger among young public school children in the State of Montana fall into three categories of data: individual child characteristics, school characteristics, and socio-economic characteristics of the various school districts.

Child-level Variables

Data presented at the child level were solely derived from the information collected from the questionnaires administered to third-grade students in the Montana Hunger Coalition Study and specifically include the following variables:

- (1) **HUNGER** reflecting individual student response to whether hungry during school usually, sometimes, or never;
- (2) **FOOD** reflecting individual student response to whether food is eaten before school usually, sometimes, or never;
- (3) **HELP** reflecting individual student response to whether adult assistance is given in the preparation of breakfast in the morning before school usually, sometimes, or never;
- (4) **TIME** reflecting individual student response to whether sufficient time is available in the morning to eat before school usually, sometimes, or never; and

- (5) **TIRED** reflecting individual student response to whether tired or sleepy during school usually, sometimes, or never.

School-level Variables

Data presented at the school level reflects the information taken from reports prepared by Montana's Office of Public Instruction detailing school and student participation in the National School Breakfast and Lunch Programs and specifically include the following variables:

- (1) **BREAKFAST** reflecting whether or not the school attended by student respondent in the Montana Hunger Coalition Study offers a Breakfast Program; and
- (2) **LUNCH** reflecting whether or not the school attended by student respondent in the Montana Hunger Coalition Study offers a Lunch Program.

Variables at the School District Level

Data presented at the school-district level represents selected socio-economic characteristics of the school districts represented in this study. The information was collected from the examination of 1990 Census School District Records and specifically include the following variables:

- (1) **EMPLOYMENT** (EMP) reflecting the overall percentage of household heads (both single and dual) with school-age children employed in the specified school district;
- (2) **HOUSEHOLD TYPE** (DUALHH) reflecting the percent breakdown of dual headed households with school-age children in the specified school district;
- (3) **POVERTY** reflecting the overall rate of poverty among all types of households with school-age children in the specified school district;
- (4) **PUBLIC ASSISTANCE** (PUBLIC) reflecting the overall rate of participation in public assistance programs (AFDC and Food Stamps) among all types of households with school-age children in the specified school district;
- (5) **RACE** (WHITE) reflecting the percent breakdown of white racial composition among all types of households with school-age children in the specified school district; and
- (6) **URBAN** reflecting the percent breakdown of urban and rural composition of the specified school district.

LIMITATIONS

Before presenting the findings of the analysis, it is important to identify the limitations of the data and methodology. As previously described, the current examination is ultimately based on information gathered in the Montana Hunger Coalition Study. As such, it is bound by the same constraints as the Coalition Study, particularly with regard to the definition and measurement of hunger.

All hunger research is limited, to some degree, by the lack of a universally accepted definition and measurement of hunger. Both the definition of hunger utilized in the present study and the manner in which it is measured may be potentially problematic for some. For example, the fact that the experience of hunger is self-reported by the third-grade students participating in the study is sure to bring up many questions, such as: Is one child's self-reported experience of hunger the same as another child's? However, as long as these possibilities are recognized and taken into consideration when analyzing the student responses, the results of this investigation should be considered meaningful in speaking to the issue of child hunger.

Moreover, because the Coalition Study elected to survey young children, a number of concessions were made regarding the nature of the questions asked of them. As it was deemed inappropriate for any personal demographic items to appear on the student questionnaires, this information was acquired from other sources. As a result, the data are presented at three separate levels and there is no singular unit of analysis. Thus, the primary limitation of the analysis and

methodology revolves around the risk of ecological fallacy, which occurs when conclusions are erroneously drawn about individuals when the units of analysis are based at a level other than the individual, such as groups or aggregates. Within the context of the present study, of particular concern will therefore be the findings regarding the relationship between a child's hunger status and the selected characteristics of the school that child attends as well as the socio-economic characteristics of the school district in which that child resides. However, because the appropriate level of data is not available, tentative conclusions can be drawn as long as the risk of ecological fallacy is noted and taken into account.

CHAPTER FOUR PRESENTATION AND DISCUSSION OF FINDINGS

SECTION I: MONTANA'S CHILD HUNGER PROBLEM

Before any examination of Montana's child hunger problem could occur, it was necessary to secure an estimate of the degree to which young public school children in the State of Montana experience hunger. For the purpose of this stage in the analysis, each third-grade student participating in the Montana Hunger Coalition Study was ascribed a level of hunger based on their response to whether or not they feel hungry in the morning. A frequency distribution (Table 1) was then run which separated the student respondents into one of three groups according to their self-reported hunger status: those who never feel hungry, those who sometimes feel hungry, and those who always feel hungry.

Table 1. Incidence and Degree of Hunger (Hunger) in the Morning During School. Montana Public School Third-Graders. Spring 1994.

<u>Hunger</u>	<u>Number</u>	<u>Percent</u>
Never Hungry	658	29.0
Sometimes Hungry	795	35.0
Always Hungry	818	36.0
<hr/>		
Total	2,271	100.0

The results of this distribution indicate that among the 2271 third-grade students participating in the Montana Hunger Coalition Study, 658 (29.0) percent report that they never feel hungry during school, 795 (35.0 percent) sometimes feel hungry, and 818 (36.0 percent) always feel hungry. To some degree, then, more than two-thirds of the student respondents reported the experience of hunger. Furthermore, among the students indicating hunger, roughly one-half (51.0 percent) maintain that they feel hungry on a regular basis.

Because the students participating in the study reflect a randomly selected statewide sample, both the incidence and degree of hunger among these student

respondents can be considered representative of that among all third-graders attending public school in the State of Montana. Consequently, it can be projected that for at least two-thirds of the state's young, school-age population, hunger is not an uncommon experience. In fact, according to the results of this study, one in three young public school children in Montana typically experiences hunger quite frequently. Taken as a whole, these findings clearly lead to the conclusion that hunger is fairly prevalent among young public school children in the State of Montana and, ultimately, a serious problem that warrants further exploration.

SECTION II: FACTORS CONTRIBUTING TO CHILD HUNGER IN MONTANA

Having calculated an estimate of the degree to which hunger can be considered a problem for young public school children in the State of Montana, the analysis will now be directed towards exploring what factors, if any, can be used to explain the existence of hunger.

For the purpose of examining the existence of child hunger, the previously calculated child hunger distributions (HUNGER) served as the dependent variable and was analyzed

with respect to the three separate sets of independent variables: (1) those at the child level, (2) the school level, and (3) the school district level.

CHILD-LEVEL CHARACTERISTICS

As discussed, existing research suggests that child hunger, to some extent, is often the result of parental indifference, absence, or neglect (Brown 1987). Also indicated in the findings of past child hunger studies is the fact that hungry children are more susceptible to physical and health-related difficulties than non-hungry children (Community Childhood Hunger Identification Project 1992).

Given that over two-thirds of the children participating in the present study reported some feelings of hunger (see Table 1), one would expect a large percentage of these student respondents to indicate a lack of parental involvement as well as exhibit some physical manifestations of hunger, such as being tired or sleepy during school.

Table 2. Hunger-Related Indicators of Montana Public School Third-Graders. Spring 1994.

<u>Hunger-Related Indicators</u>								
Student Responses	FOOD		HELP		TIME		TIRED	
	N	%	N	%	N	%	N	%
Yes	2056	90.5	897	39.6	1990	87.8	1264	55.8
No	215	9.5	1366	60.4	276	12.2	1003	44.2
Total	2271	100.0	2263	100.0	2266	100.0	2267	100.0

* Totals vary due to missing data and illegible responses.

As shown in Table 2, children participating in the study have little parental involvement with regard to food preparation and assistance in getting ready for school in the morning. Nearly 10 percent of the third-grade students surveyed reported that they rarely or only occasionally eat something before going to school in the morning. Moreover, 60 percent of the students indicated that they have little or no help from a grown-up in getting ready for school. And, finally, roughly 12 percent of the student respondents revealed that they do not have enough time to eat before school in the morning. Within the context of these distributions, the number of third-graders reporting

that they feel hungry is not surprising and, furthermore, neither is the percentage (approximately 56 percent) indicating that they feel tired or sleepy during school.

The correlation and probability level values presented in Table 3 take the analysis of these results a step further and allow the determination of whether or not there are statistical associations between any of these child-level characteristics and the incidence of hunger as reported by the students respondents participating in this study.

Table 3. Zero-Order Correlation Values for Hunger and Hunger-Related Indicators. Montana Public School Third-Graders. Spring 1994.

<u>Variables</u>	<u>Dependent Variables</u>				
	<u>Hunger</u>	<u>Help</u>	<u>Food</u>	<u>Time</u>	<u>Tired</u>
Hunger	---	.033	-.101*	-.054*	.188*
Help		---	-.062*	.135	-.036
Food			---	-.140*	.027
Time				---	-.088*
Tired					---
* Significance LE .05 (2-tailed)					

For the most part, the relationships between hunger and the child-level independent variables were as expected. With the exception of the variable HELP, the incidence of child hunger calculated in this study is significantly correlated to all of the child-level characteristics. HUNGER is most strongly associated with the variable TIRED. The correlation (.1879) between these variables suggests that those student respondents reporting they were hungry were more likely to indicate they also feel tired or sleepy. Slightly less in strength was the correlation (-.1005) between HUNGER and FOOD, which implies that those children purporting to be hungry tended to also indicate that they never (or rarely) eat something before going to school. And finally, although weak, the level of association (-.0535) between the variable HUNGER and the variable TIME suggests that those children claiming to be hungry were more likely to report that they do not have enough time to eat something in the morning before going to school.

Generally speaking, these findings are in accordance with those of previous child hunger research. The student respondents reporting to be hungry tend to have less time before school in the morning as well as less parental

involvement with regard to food preparation and assistance in getting ready. Furthermore, students experiencing hunger were more likely to also exhibit a well-known physical manifestation of hunger, a lack of energy.

There are a number of important conclusions that can be drawn from these findings. First, many of Montana's youngest, school-age children do not have enough time or parental involvement and assistance when it comes to getting ready for school and preparing breakfast. Whether it be for work reasons, parental indifference, or ignorance, the end result is that a large majority of children are unsupervised in the morning and are forced to fend for themselves. Second, subsequent to being left to their own devices in the morning, many of these children are not eating well or not eating at all before school. That so many of the student respondents reported feeling tired and sleepy during school may be evidence that this lack of food intake or proper nutrition holds the potential to negatively effect these children. Research clearly points to the fact that children experiencing hunger tend to not only underachieve in school, but also suffer physically and psychologically (CCHIP 1992). Taken as a whole, the

implications of the findings in this study with regard to hunger and the child-level characteristics reiterate the fundamental importance of both eating a good breakfast before school as well as the role of an adult in ensuring that children not only eat before going to school, but eat well.

SCHOOL-LEVEL CHARACTERISTICS

The mitigating effect of school feeding programs, such as the National School Lunch and Breakfast Programs, on child hunger has been well-documented. Existing research clearly shows that these programs play a major role in alleviating the existence of child hunger (Food Action and Research Center 1992). Considering the number of children participating in the present study for whom hunger is a self-reported problem, one would consequently expect that a majority of the student respondents attend schools that do not participate in school feeding programs.

Table 4. Availability of School Feeding Programs.
Montana Public School Third-Graders. Spring 1994.

<u>School-Level (Program) Variables</u>				
<u>School Participation</u>	<u>Breakfast</u>		<u>Lunch</u>	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Yes	1099	48.4	2177	95.9
No	1172	51.6	94	4.1
Total	2271	100.0	2271	100.0

However, data presented in Table 4 quickly contradicts the expectation of a low school participation rate in feeding programs. Of the 2271 student respondents, 1099 (48.4 percent) attended schools that offered a breakfast program and 2177 (95.9 percent) attended schools with a lunch program. Thus, projecting to the state as a whole, one can surmise that approximately one-half of public school children go to schools where a breakfast program is available and nearly all attend schools that offer a lunch program.

Table 5. Zero-Order Correlation Values for Hunger and School-Level Variables. Montana Public School Third-Graders. Spring 1994.

<u>Variables</u>	<u>Dependent Variables</u>		
	<u>Hunger</u>	<u>Breakfast</u>	<u>Lunch</u>
Hunger	--	.024	.024
Breakfast		---	.201*
Lunch			---

* Significance LE .05 (2-tailed)

The findings from the frequency distribution are confirmed by the correlation and probability values presented in Table 5. It appears that school participation in the National School Breakfast and Lunch programs has no statistical bearing in explaining the level of morning child hunger estimated in this study. For both school-level variables BP and LP, the probability levels associated with the correlation values with the variable HUNGER are not statistically significant.

Before completely dismissing the relationship between child hunger and school feeding programs, an alternative explanation should be explored. It should be

stressed that the existence of a School Breakfast and Lunch Program does not necessarily guarantee student participation. In fact, existing research tends to suggest that many students who would benefit from school feeding programs may not participate for fear of stigma, time and other logistical constraints, and/or parental ignorance of both the existence and merits of these programs (Brown 1987).

Because it was deemed inappropriate, the student respondents were not asked whether they personally participated in these programs. That school participation in the National School and Breakfast Programs did not appear to be statistically relevant in explaining child hunger in this study is perhaps really more indicative of a limitation of the manner in which the data were collected as well as the level of enrollment in school feeding programs among the surveyed students than of the role of school feeding programs in battling child hunger.

Given that so many of the students participating in this study indicated a lack of parental supervision and, to a lesser degree, a lack of time and a lack of food before school, it is important to determine the level of student

participation in these programs, particularly the breakfast program. Efforts can then be made to enroll those students that can most benefit from these programs.

SCHOOL DISTRICT CHARACTERISTICS

Hunger has usually been tied to poverty and the larger social, economic, and demographic factors typically associated with its existence. Within the context of over a decade of hunger research, in which the relationship between hunger and poverty has been clearly established, one would expect that the students participating in the present study, particularly those reporting to be hungry, would reside in areas reflecting certain socio-economic characteristics. The array of school district characteristics presented in Table 6 lend themselves to constructing a general profile of the larger socio-economic environment in which the student respondents lived.

Table 6. Descriptive Statistics for School District Characteristics. Montana Public School Third-Graders. Spring 1994.

<u>Variables</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>S.D.</u>
DH	3.0	100.0	77.0	16.0
EMP	6.0	100.0	91.0	6.0
POV	0.0	80.0	21.0	11.0
PUB	0.0	13.0	3.0	3.0
URBAN	0.0	95.0	40.0	39.0
WHITE	0.0	100.0	87.0	22.0

* Definitions of Variables p. 27-28

There is much variation with respect to the social, economic, and demographic factors of the areas in which the third-grade students participating in this study reside. In a larger, more general context, however, the initial implication from the school district means is that the students participating in this study, as a group, appear to reside in districts with a fairly high degree of poverty and a fairly high level of employment. On average, the students hail from areas where over 20 percent of the households live below the poverty line and roughly 91 percent of the households with school-age children are employed. Also

notable is that the majority of households (approximately 75 percent) are headed by two parents and that minorities racially make-up only 13 percent of the households.

Many of the characteristics from this descriptive profile, particularly the rate of poverty, are typically associated with hunger. The zero-order correlation values and associated probability levels presented in Table 7 permit the determination of the statistical relation between the school district characteristics and the occurrence of child hunger found in this study.

Table 7. Zero-Order Correlation Values for Hunger and School District Variables. Montana Public School Third-Graders. Spring 1994.

Variables	HUNGER	DH	EMP	POV	PUB	URBAN	WHITE
HUNGER	---	-.032	-.018	-.001	-.005	-.094*	-.024
DH		---	.190*	-.134*	-.226*	-.233*	.293
EMP			---	-.671*	-.701*	-.013	.646*
POV				---	.731*	-.288*	-.682*
PUB					---	-.056*	-.832*
URBAN						---	.165*
WHITE							---

* Significance LE .05 (2-tailed)

Given that the school districts represented in this study tend to reflect certain socio-economic patterns typically associated with the existence of hunger, one would expect some degree of correlation between the incidence of child hunger found and these variables. The correlation values and associated probabilities presented in Table 7, however, suggest otherwise. With the exception of the variable URBAN, the school district characteristics included in this analysis appear to hold no statistical significance for the variable HUNGER. The probability levels associated with these correlations fall well beyond the accepted .05 level and subsequently suggest that there is no statistical connection between the poverty and public assistance rate, racial and household composition, and employment level of a school district in which a student respondent lives and that student's self-reported hunger status.

Urban composition (URBAN) however, does appear to be statistically related to the incidence of hunger found among the students. Although not particularly strong, the correlation (-.0935) between URBAN and HUNGER is statistically significant. This association suggests that those student respondents living in school districts with

a higher degree of urban composition are less likely to indicate being hungry than those students residing in more rural districts. That child hunger is associated with more rural areas is not surprising as children living in these areas tend to have to get up earlier, travel farther distances to school, and have less access to food programs than those students living in more urban districts (Miller 1995).

Although conventional wisdom suggests that hunger is inextricably linked to poverty and other social-economic characteristics, the results from this study tend to suggest that, with the exception of urban composition, such factors are not sufficient to explain the existence of hunger among the third-grade students participating in this study. For example, with regard to their hunger status, there was no difference between children living in areas with high rates of poverty and those living in more affluent areas. The implication of these findings, from a sociological point of view, is that the occurrence of child hunger among young public school children cannot specifically be attributed to certain economic, social, or racial characteristics.

Ultimately, this suggests that all young public school children are potentially at risk for experiencing hunger.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

The data collected in connection with the present study clearly indicates that hunger is a serious problem for a significant number of young people in the State of Montana. According to this study's findings, roughly two-thirds of the state's public school third-grade population experiences hunger. Moreover, approximately one-half indicate they feel hungry quite often. Taken as a whole, these figures ultimately suggest the possibility that one in three young public school children in the State of Montana go hungry on a regular basis. This estimate not only places the level of child hunger evident in the State much higher than national trends but also much higher than previous calculations of child hunger in Montana.

That so many of Montana's youngest citizens may be growing up hungry gives cause for serious concern. The link between hunger and a child's general academic and physical well-being is clearly established. Research shows that hungry children tend to be more prone to experience academic, behavioral, and physical difficulties than their

non-hungry counterparts (CCHIP 1992). Furthermore, the negative impact of child hunger may be far-reaching. The hungry child who underachieves in school may likely be unable to function and perform as a productive, healthy member of society as an adult.

While this projection of the extent of Montana's child hunger problem and its potential effects is disturbing in and of itself, the implication of the findings of the present investigation regarding the factors surrounding its existence only underscores the seriousness of the situation. Hunger among the third-grade students was not differentially associated with certain socio-economic characteristics that are typically related to its existence, such as: poverty rates, household type, race, and employment rates. Subsequently, the occurrence of hunger among the surveyed students was not confined to certain socio-economic categories, but was rather dispersed fairly evenly among the various classes. Some of the children participating in the study who indicated being hungry might be so because their families are impoverished, there are children who are hungry for reasons other than the socio-economic characteristics of their household environment.

That child hunger in Montana appears to have moved beyond traditional social and economic thinking and assumptions suggestive of a serious trend. If some children are going hungry when their families can well afford to feed them, one must look elsewhere as to the reason why these children are experiencing hunger. Among the third-grade students participating in the present study, a majority (60 percent) indicated having little parental involvement in getting something to eat before school. For whatever reasons, many of the student respondents must fend for themselves in the morning. Given this parental absence, it is not really surprising that many of the students also indicated not having enough time to prepare something to eat in the morning or having anything to eat all before going to school. These findings ultimately suggest that one may really not have to look any further than a child's home environment to explain the existence of hunger among young public school children in the State of Montana.

Existing research suggests that while many children may go hungry because of parental indifference, absence or neglect, far more go hungry because their parent(s) cannot afford to feed them. The results of this study tend to imply

an additional explanation. Children may be going hungry because their parents are not around or do not take the time to help them eat a proper breakfast in the morning before attending school.

It is fully recognized that many parents must leave their children unattended in the morning because they themselves must get to work. However, if parents are unable to assist their children in the morning, there is an alternative. Many public schools offer morning and noon feeding programs. According to the results of this study, nearly half the students attended schools where a breakfast program was available and nearly all had access to a lunch program. As previously suggested, it was deemed inappropriate to ask the student respondents whether or not they participated in these school feeding programs. Past child hunger research suggests, however, that many children who would benefit from these programs, particularly the breakfast program, do not participate for fear of being stigmatized or because of the logistical problems faced by schools offering the breakfast program. One could therefore rightly assume that enrollment in a school breakfast program

among the third-grade students participating in this study is not what it could or should be.

Taken as a whole, the findings of the present study hold several implications for child hunger policy and future research. That one in three young public school children in the State of Montana may very well be experiencing hunger clearly indicates that steps must be taken to alleviate, if not eliminate, this problem. First, the importance of child nutrition must be stressed to the public. Parents, teachers, and the children themselves need to be educated and made aware that children need to eat and need to eat well if they are to perform well in school and stay healthy. Public education on the issue of child hunger and nutrition must be increased. Second, the role of school food programs in combating child hunger and providing proper meals needs to be recognized and socially accepted as a realistic alternative to home feeding. These programs need to be made available to all children, without fear of stigma, and need to be feasible both time and cost-wise for parents. The existence of such programs do little good if they are not utilized. Additional research examining the use and public conceptions of the school feeding programs must be conducted

before the logistical and conceptual obstacles typically associated with these programs can likely be corrected.

And, finally, greater public concern and political action must be directed towards ensuring, at the very least, the nutritional well-being of children. No child should have to face the prospect of growing up hungry.

Appendix

Figure A1. Student Questionnaire. Montana Public School
Third-Graders. Spring 1994.

MONTANA THIRD-GRADE STUDY

1. Do you eat something every morning before you come to school? Yes_____ No_____
2. What do you usually eat in the morning before you come to school?

3. Did you eat anything this morning before you came to school? Yes_____ No_____
4. What did you eat this morning before you came to school?

5. Do you ever feel hungry before school starts in the morning? Yes_____ No_____
6. Do you ever feel hungry after school starts in the morning? Yes_____ No_____
7. Do you ever feel tired or sleepy in school in the morning before lunchtime? Yes_____ No_____
8. Do you have enough time at home in the morning to eat something before you come to school? Yes_____ No_____
9. Did a grown-up help you make breakfast this morning before you came to school? Yes_____ No_____

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